Special Issue

Assessment of the Strength of Materials and Structure Elements

Message from the Guest Editors

In this Special Issue, we intend to include a number of articles presenting methods for assessing the material condition of structural components made of steel, including after long-term service. This issue is important because structural components exhibit pronounced microstructural anisotropy, resulting in variations in mechanical properties, which, in turn, affect the strength and integrity of structural components. Long-term operation at elevated temperatures and/or exposure to corrosive or hydrogen-forming environments leads to material degradation, reduced strength properties and fracture toughness, which can result in failure. Currently, various methods based on experimental studies of material characterization, microstructural determination, acoustic emission, numerical modelling and other techniques are used to assess material condition. In our Special Issue, we invite authors to publish their original research and analysis results on the assessment of current material conditions and the residual resurgence of structural elements estimated from experimental and numerical studies.

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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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